

I. IN THE CLAIMS:

1. *(Canceled)*

2. *(Previously Presented)* The method of claim 14, wherein the hydroxylamine derivative comprises hydroxylamine nitrate, hydroxylamine sulfate, and/or hydroxylamine.

3. *(Previously Presented)* The method of claim 2, wherein the hydroxylamine derivative is present in a total amount from about 1% to about 20% by weight of the composition.

4. *(Previously Presented)* The method of claim 14, wherein the corrosion inhibitor comprises benzotriazole.

5. *(Previously Presented)* The method of claim 4, wherein the corrosion inhibitor consists essentially of benzotriazole.

6. *(Previously Presented)* The method of claim 5, wherein the corrosion inhibitor is present in a total amount from about 0.01% to about 0.05% by weight of the composition.

7. *(Previously Presented)* The method of claim 14, wherein the water is present in a total amount from about 90% to about 99% by weight of the composition.

8. *(Previously Presented)* The method of claim 14, wherein the composition comprises a sufficient amount of an acid and/or a base to adjust the pH of the composition to a desired level between pH 2 and pH 12.

9. *(Previously Presented)* The method of claim 8, wherein the acid and/or base are present in a total amount from about 0.01% to about 2% by weight of the composition.

10. *(Previously Presented)* The method of claim 14, wherein the composition further comprises one or more of the following: a two carbon atom linkage alkanolamine compound, a

quaternary ammonium salt, a chelating agent, an organic solvent, a non-hydroxyl-containing amine compound, a surfactant, an additional oxidizing agent, and a non-abrasive additive.

11. (*Canceled*)

12. (*Canceled*)

13. (*Canceled*)

14. (*Currently Amended*) A process for chemical mechanical polishing of a substrate comprising:

providing a substantially abrasive-free chemical mechanical polishing composition that comprises a hydroxylamine derivative, a corrosion inhibitor, water, and optionally a sufficient amount of an acid and/or a base to adjust the pH of the composition to a desired level, wherein the majority of the composition comprises water;

contacting the chemical mechanical polishing composition with a substrate having a metal oxide layer surface, upon which metal oxide surface a barrier layer is disposed, upon which barrier layer a metal layer is disposed; and

chemically mechanically polishing the substrate by contacting the substrate surface with an abrasive polishing pad at an applied pressure of not more than about 2 psi and by moving the pad in relation to the substrate,

wherein the removal rate of the metal layer is less than about 250 Å/min, wherein the removal rate of the barrier layer is greater than about 500 Å/min, and wherein the removal rate of the metal oxide layer is less than about 10 Å/min.

15. (*Canceled*)

16. (*Original*) The process of claim 14, wherein the removal rate of the metal layer during the chemical mechanical polishing step is greater than about 10 Å/min.

17. (*Original*) The process of claim 14, wherein the removal rate of the barrier layer during the chemical mechanical polishing step is less than about 750 Å/min.

18. (*Original*) The process of claim 14, wherein the abrasive-free chemical mechanical polishing composition is substantially free of one or more of the following: hydroxylamine, acid and/or base to adjust pH, two carbon atom linkage alkanolamine compounds, quaternary ammonium salts, chelating agents, organic solvents, non-hydroxyl-containing amine compounds, surfactants, additional oxidizing agents, and non-abrasive additives.

19. (*Original*) The process of claim 14, wherein the abrasive-free chemical mechanical polishing composition consists essentially of:

about 1% to about 5% by weight of a hydroxylamine derivative selected from the group consisting of hydroxylamine, hydroxylamine nitrate, hydroxylamine sulfate, and mixtures thereof;

about 0.01% to about 0.05% by weight of benzotriazole;

about 90% to 99% by weight of water; and

less than about 2% by weight of an acid and/or a base to adjust the pH of the composition to a desired level.

20. (*Original*) The process of claim 19, wherein the abrasive-free chemical mechanical polishing composition is substantially free of hydroxylamine.

21. (*Original*) The process of claim 14, wherein the metal layer of the substrate comprises copper.

22. (*Original*) The process of claim 21, wherein the barrier layer of the substrate comprises tantalum nitride.

23. (*Original*) The process of claim 14, wherein the barrier layer of the substrate comprises tantalum nitride.

24. *(Previously Presented)* The process of claim 14, wherein the pH of the composition is about between 4 and 10.

25. *(Previously Presented)* The process of claim 14, wherein the pH of the composition is about between 5.2 and 5.5.

26. *(Previously Presented)* The process of claim 14, wherein the hydroxylamine derivative is present in a total amount from about 0.2% to about 20% by weight of the composition and wherein the concentration of the acid and/or a base to adjust the pH of the composition is from about 0.01 to about 1%.

27. *(Currently Amended)* A process for chemical mechanical polishing of a substrate comprising:

providing a substantially abrasive-free chemical mechanical polishing composition that comprises a hydroxylamine derivative, a corrosion inhibitor, water, and optionally a sufficient amount of an acid and/or a base to adjust the pH of the composition to a desired level, wherein the majority of the composition comprises water;

contacting the chemical mechanical polishing composition with a substrate having a metal oxide layer surface, upon which metal oxide surface a barrier layer is disposed, upon which barrier layer a metal layer is disposed; and

chemically mechanically polishing the substrate by contacting the substrate surface with an abrasive polishing pad at an applied pressure of not more than about 2 psi and by moving the pad in relation to the substrate,

wherein the removal rate of the metal layer is less than about 250 Å/min, wherein the removal rate of the barrier layer is between 200 and 580 Å/min, and wherein the removal rate of the metal oxide layer is less than about 10 Å/min.